IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

1. (Currently Amended) A wavelength division multiplexed optical system, comprising:

a first optical node including a transponder having a test signal generator to generate ~~for generating~~ a test signal, the test signal generator being adapted to output an error frame or a valid frame as the test signal;

a second optical node including a transponder having a monitoring circuit to monitor ~~for monitoring~~ a received test signal; and

a light path through which at least optical communications normally are exchanged between the ~~said~~ first and second optical nodes,

wherein the ~~said~~ light path is tested by the monitoring circuit monitoring a bit error rate ~~quality~~ of the test signal in response to receiving the test signal from the first optical node through the ~~said~~ light path.

2. (Cancelled).

3. (Original) The optical system of Claim 1, wherein the test signal is a valid client signal.

4. (Original) The optical system of Claim 3, wherein the valid client signal is one of a valid SONET frame, an ATM cell and an IP packet.

5. (Original) The optical system of Claim 1, wherein the test signal is a valid maintenance signal.

6. (Previously Presented) The optical system of Claim 5, wherein the valid maintenance signal is a SONET alarm indication signal.

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7. (Currently Amended) The optical system of Claim 1, wherein the ~~said~~ light path is tested prior to connecting client equipment to the ~~said~~ first and second optical nodes.

8. (Previously Presented) The optical system of Claim 1, wherein the test signal includes predetermined errors.

9. (Currently Amended) The optical system of Claim 1, further comprising client equipment connected to the ~~said~~ first optical node, the ~~said~~ client equipment normally exchanging optical communications with the ~~said~~ first optical node, wherein the ~~said~~ first optical node further includes a communications blocker which blocks the optical communications from being normally exchanged with the ~~said~~ client equipment when the test signal generator generates the test signal.

10. (Currently Amended) An optical line terminal comprising:

a transponder having at least a transmitter and a receiver, a test signal generator to generate ~~for generating~~ a test signal, the test signal generator being adapted to output an error frame or a valid frame as the test signal, and a monitoring circuit connected to the receiver ~~for monitoring~~ to monitor a bit error rate of a received test signal at an input of the receiver, wherein the transmitter transmits signals applied to an input of the transmitter from the optical line terminal; and

a switch, operable ~~for~~ either ~~coupling~~ to couple a signal output by the receiver to the input of the transmitter, or ~~coupling~~ to couple the test signal to the input of the transmitter.

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11. (Currently Amended) A wavelength division multiplexed optical system, comprising:

an optical node including a transponder having a test signal generator to generate ~~for generating~~ a test signal, the test signal generator being adapted to output an error frame or a valid frame as the test signal;

client equipment including a monitoring circuit to monitor ~~for monitoring~~ a received test signal; and

an optical path through which at least optical communications normally are exchanged between the ~~said~~ optical node and the ~~said~~ client equipment,

wherein the ~~said~~ optical path is tested by monitoring a bit error rate ~~quality~~ of the test signal generated by the test signal generator of the ~~said~~ optical node and received by the monitoring circuit of the ~~said~~ client equipment through the ~~said~~ optical path.

12-29. (Canceled)

30. (Currently Amended) The optical system of Claim 1, wherein the transponder of the ~~said~~ first optical node also has another monitoring circuit to monitor ~~for monitoring~~ a test signal received thereby, the transponder of the ~~said~~ second optical node also has another test signal generator to generate ~~for generating~~ another test signal, and the monitoring circuit of the ~~said~~ first optical node tests the light path by monitoring a quality of the test signal generated in the ~~said~~ second optical node and provided to the monitoring circuit of the ~~said~~ first optical node through the ~~said~~ light path.

31. (Currently Amended) The optical system of Claim 30, wherein the light path includes at least one loopback mechanism which directs the test signal generated by the test signal generator of one of the ~~said~~ first and second optical nodes to the monitoring circuit of a same one of the ~~said~~ first and second optical nodes, for monitoring therein.

32. (Previously Presented) The optical system of Claim 31, wherein the light path also includes at least one other optical node, and the loopback mechanism is included in the at least one other optical node.

33. (Currently Amended) In a wavelength division multiplexed optical communication system having an optical path through which optical communications normally are communicated, at least one optical node comprising:

a transmitting portion, arranged to transmit a generated test signal through the optical path, the test signal being an optical signal; and

a receiving portion, arranged to receive the test signal from the transmitting portion through the optical path, and to monitor a quality of the test signal received through the optical path by measuring a bit error rate, without requiring a conversion of the test signal to or from a non-optical form outside of the optical node,

wherein the optical path includes at least one loopback mechanism which directs the generated test signal transmitted by the transmitting portion towards the receiving portion.

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34. (Cancelled).

35. (Currently Amended) The at least one optical node of Claim 33 ~~34~~, wherein the optical path also includes at least one other optical node, and the loopback mechanism is included in the at least one other optical node.

36. (Previously Presented) The at least one optical node of Claim 35, wherein the at least one other optical node includes an add-drop multiplexer.

37. (Currently Amended) A method for operating a wavelength division multiplexed optical communication system, comprising:

transmitting a generated test signal from a first optical node to a second optical node by way of a light path through which at least optical communications normally are exchanged between the first and second optical nodes, the test signal comprising a predetermined error frame or a predetermined valid frame as the test signal; and

determining if there is a fault condition in the light path based on a bit error rate ~~quality~~ of the test signal received at the second optical node.

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38. (Cancelled).

39. (Previously Presented) The method of Claim 37, wherein the test signal is a valid client signal.

40. (Previously Presented) The method of Claim 39, wherein the valid client signal is one of a valid SONET frame, an ATM cell and an IP packet.

41. (Previously Presented) The method of Claim 37, wherein the test signal is a valid maintenance signal.

42. (Previously Presented) The method of Claim 41, wherein the valid maintenance signal is a SONET alarm indication signal.

43. (Previously Presented) The method of Claim 37, wherein the light path is tested prior to connecting client equipment to the first and second optical nodes.

44. (Previously Presented) The method of Claim 37, wherein the test signal includes predetermined errors.

45. (Currently Amended) A method for operating a wavelength division multiplexed optical communication system having at least one optical node coupled in at least one optical path through which optical communications normally are communicated, the method comprising:

transmitting a generated test signal from the at least one optical node through the at least one optical path, the test signal being an optical signal;

looping back the test signal transmitted from the at least one optical node, towards the at least one optical node through the at least one optical path;

receiving back at the at least one optical node the test signal transmitted from the at least one optical node through the at least one optical path; and

monitoring a quality of the test signal received at the at least one optical node by measuring a bit error rate, without requiring a conversion of the test signal to or from a non-optical form outside of the at least one optical node.

46. (Cancelled).

47. (Currently Amended) The method of Claim 45 ~~46~~, wherein the optical path also includes at least one other optical node, and the looping back is performed in the at least one other optical node.

48. (Previously Presented) The method of Claim 47, wherein the at least one other optical node includes an add-drop multiplexer.